



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,909	09/15/2003	Cheng-Chi Wang	250317-1060	1239
24504	7590	02/07/2005	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			WEISS, HOWARD	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/662,909

Applicant(s)

WANG, CHENG-CHI

Examiner

Howard Weiss

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 9-15 ~~is~~ are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-15 ~~is~~ are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Attorney's Docket Number: 250317-1060

Filing Date: 9/15/03

Continuing Data: none

Claimed Foreign Priority Date: 9/18/02 (TWX)

Applicant(s): Wang

Examiner: Howard Weiss

***Election/Restrictions***

1. Applicant's election of the Group I invention, Claims 9 to 15, in the paper filed 11/8/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (M.P.E.P. § 818.03(a)). Claims 1 to 8, drawn to the non-elected invention, have been canceled.

***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 12 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The pending claims state that the source/drain electrodes comprise an ohmic contact layer and that the stacked structures comprise an ohmic contact layer which is different from the ohmic

contact layer of the source/drain electrodes. However, the Description states (Paragraph [0010]) that there is only one ohmic contact layer.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Initially, and with respect to Claims 10 and 14, note that a "product by process" claim is directed to the product per se, no matter how actually made. See *In re Thorpe et al.*, 227 USPQ 964 (CAFC, 1985) and the related case law cited therein which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. As stated in Thorpe,

even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972); *In re Pilkington*, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969); *Buono v. Yankee Maid Dress Corp.*, 77 F.2d 274, 279, 26 USPQ 57, 61 (2d. Cir. 1935).

Note that Applicant has burden of proof in such cases as the above case law makes clear.

7. Claims 9 to 12 are rejected under 35 U.S.C. § 103(a) as obvious over Tsujimura et al. (U.S. Patent Application No. 2002/0190253), Licari et al. (U.S. Patent No. 5,485,038) and Gee-Sung et al. (U.S. Patent No. 5,998,230).

Tsujimura et al. show most aspects of the instant invention (e.g. Figure 3) including:

- a plurality of first and second stacked structures on a substrate 20

- each first stack includes a first conducting layer **21**, an insulation layer **22** and an amorphous silicon (a-Si) layer **23**
- said second stack includes said first conducting layer
- an interlayer **31** between the plurality of stacks
- source/drain electrodes **25/26** connected to separate portions of said a-Si layer
- a passivation layer **27** on said a-Si layer and said source/drain electrodes
- a transparent electrode **32** on said passivation layer and connected to said drain electrode

Tsujimura et al. do not show the first stacks including a ohmic contact layer and the interlayer between the stacks made of photo-imagable material. Gee-Sung et al. teach e.g. Figures 7) to include an ohmic contact layer **7** in a stacked structure to a conventional structure of a TFT array structure (Column 1 Lines 24 to 46). It would have been obvious to a person of ordinary skill in the art at the time of invention to include an ohmic contact layer as taught by Gee-Sung et al. in the stacked structure of Tsujimura et al. since this is a conventional structure of a TFT array structure.

Licari et al. teach to use photo-imagable material for interlayers because these materials are less expensive and more efficient to use than conventional interlayer material (Column 3 Lines 12 to 21). It would have been obvious to a person of ordinary skill in the art at the time of invention to use photo-imagable material for interlayers as taught by Licari et al. in the device of Tsujimura et al. because these materials are less expensive and more efficient to use than conventional interlayer material.

As to the grounds of rejection under "product by process", how the plurality of stacks are formed, either by a one mask process or another process, pertains to intermediate process steps and does not affect the final device structure. See MPEP § 2113 which discusses the handling of "product by process" claims.

8. Claims 13 to 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsujimura et al., Licari et al. and Gee-Sung et al., as applied to Claim 13 above, and further in view of Ota et al. (JP 06-084946).

Tsujimura et al., Licari et al. and Gee-Sung et al. show most aspects of the instant invention (Paragraph 7) except for the source/drain electrodes and said passivation layer on said photo-imagable interlayer. Ota et al. teach (e.g. Figure 3) to put the source/drain electrodes **8/9** and said passivation layer **10** on said photo-imagable interlayer **16** to improve alignment (see PURPOSE). It would have been obvious to a person of ordinary skill in the art at the time of invention to put the source/drain electrodes and said passivation layer on said photo-imagable interlayer as taught by Ota et al. in the device of Tsujimura et al., Licari et al. and Gee-Sung et al. to improve alignment.

### ***Conclusion***

9. Paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site ([www.uspto.gov](http://www.uspto.gov)), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 for information on this policy. Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.
10. Papers related to this application may be submitted directly to Art Unit 2814 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The Art Unit

Art Unit: 2814

---

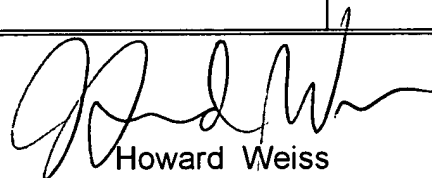
2814 Fax Center number is **(703) 872-9306**. The Art Unit 2814 Fax Center is to be used only for papers related to Art Unit 2814 applications.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Howard Weiss at **(571) 272-1720** and between the hours of 8:00 AM to 4:00 PM (Eastern Standard Time) Monday through Friday or by e-mail via **Howard.Weiss@uspto.gov**.

12. The following list is the Examiner's field of search for the present Office Action:

Field of Search	Date
U.S. Class / Subclass(es): 257/59, 72; 349/43	2/2/05
Other Documentation: PLUS Analysis Report	1/26/05
Electronic Database(s): EAST, JPL	1/2/05

HW/hw  
3 February 2005



Howard Weiss  
Primary Examiner  
Art Unit 2814